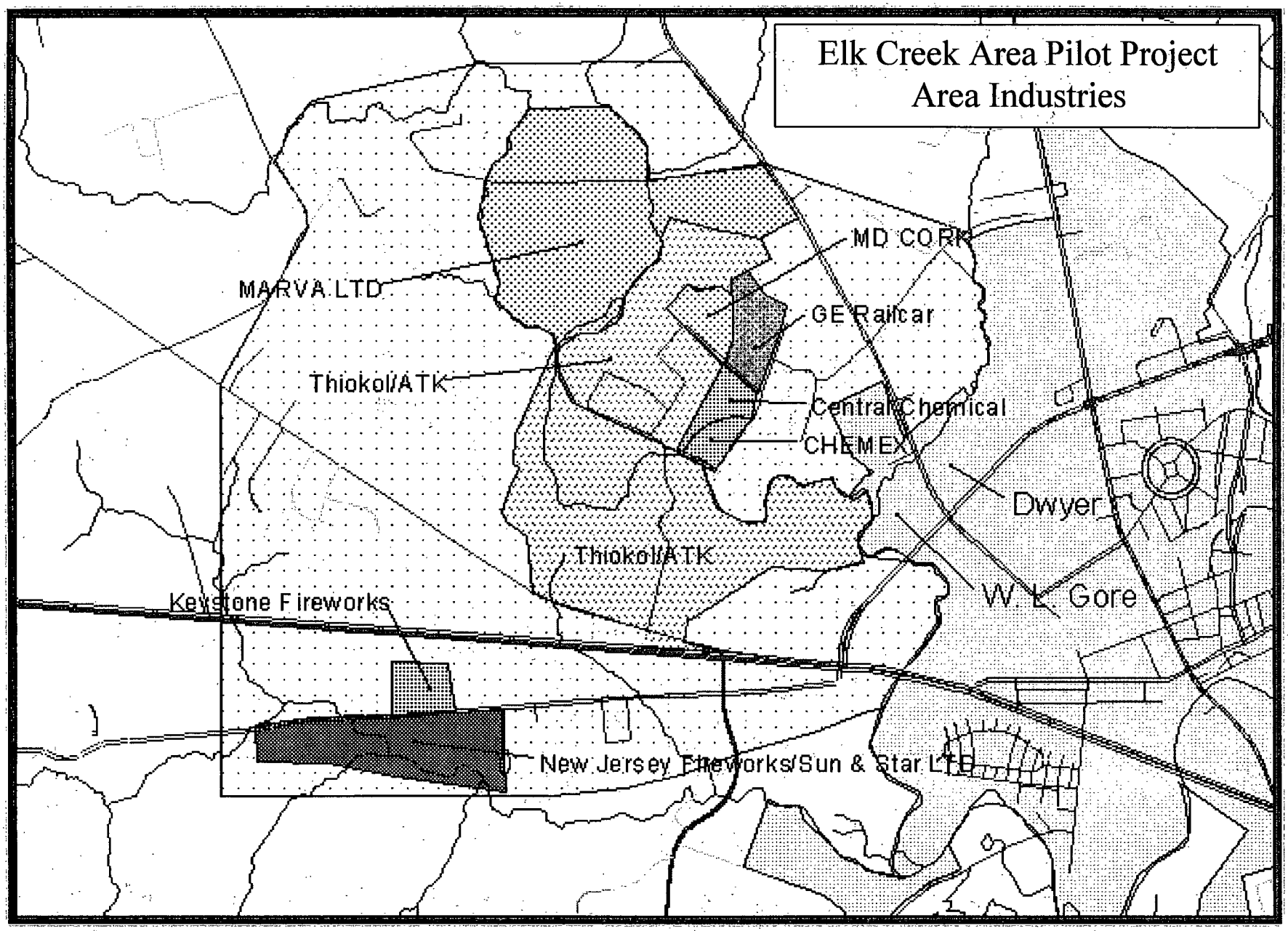

ORIGINAL

Central Chemical Corporation

Site Location

Central Chemical Corporation is located at Zeitler Lane, Triumph Industrial Park, Elkton, Maryland. The 12.12-acre property is located approximately .75 miles southwest of the intersection of the Blue Ball Road entrance to the Triumph Industrial Park.

Site History

Triumph Industrial Park was utilized as a munitions manufacturing facility during World War II. The Maryland Department of the Environment (MDE) is unable to determine the exact use of the Central Chemical property during World War II, or the use of the property from that time until 1966. However, pre-1966 blueprints indicate the presence of four small structures and what appears to be a warehouse on the Central Chemical site.

In 1966, Central Chemical Corporation purchased the site from the Elkton Company. During the next few years, Central Chemical Corporation developed the property and constructed the existing building sand facilities. Following development of the site in the late 1960s, Central Chemical Corporation utilized the facility to mix and hammer-mill dry chemicals including pesticides, fertilizers, and herbicides.

The mixing and milling processes utilized at the facility generated solid waste in the form of waste chemicals and liquid waste in the form of "wash-down" water generated from cleaning the equipment. In order to dispose of the solid waste, Central Chemical Corporation installed an industrial waste incinerator (one of the first in the United States). Liquid waste consisted of soapy "wash-down" water and was disposed of as nonhazardous waste by a waste removal and disposal contractor.

Environmental Investigations

In 1970, the Maryland Department of Water Resources submitted an order to Central Chemical to cease violations in their handling of wastewater and install an adequate wastewater treatment facility. MDE does not have any records regarding the nature of the violation that resulted in the 1970 order.

In 1987, chlorinated solvents were detected in groundwater samples collected from the production well that exists on the Central Chemical property. The samples were collected as part of the ongoing investigations of the surrounding CERCLA sites (notably G.E. Railcar, W.L. Gore, Thiokol Inc., Crouse Excavation, and the Dwyer Property), As a result of the detection of these contaminants, Central Chemical was placed on the CERCLIS and State Master Lists for further investigation.

In 1989, MDE completed a Preliminary Assessment of the site. The assessment concluded that the detected chlorinated solvent contamination was unlikely to have resulted from on-site activities as no chlorinated solvents were in use in the dry-mixing and milling process and no solvent waste was generated on the property. The assessment further concluded that the detected contamination likely migrated from either the neighboring Thiokol Inc. or G.E. Railcar sites.

Central Chemical stopped using the water from the production well at their facility during the 1980s, and currently uses the well house for storage of flammable materials. Given the lack of an on-site source for the contamination and lack of pathways that pose a risk to human health, U.S. Environmental Protection Agency (EPA) required no further remedial action for the property.

Current Status

For the 1999 Cooperative Agreement with EPA, MDE is conducting a site survey of the Central Chemical site. The Site Survey Initiative was proposed to reassess the status of those sites that were previously designated No Further Remedial Action Planned by EPA. This initiative is intended to determine if site conditions have remained stable, provide a current description of the site, and identify and address any new pathways for contamination. The initiative is also intended to enable the State to determine whether the State should recommend further investigation by EPA, oversight by the State and no further investigation by EPA, or no further action be taken by EPA or the State and the State designate the site as a "Formerly Investigated Site."

CROUSE BROTHERS EXCAVATING

Site Location

The Crouse Brothers Excavating site is located at 415 West Pulaski Highway in Elkton, Cecil County, Maryland. The site is 1,000 feet west of the U.S. Route 40 intersection with Maryland Route 279. An abandoned railroad track lies north of the site and U.S. Route 40 is to the south. The geographic coordinates of the site are 39° 36′ 54″ North and 75° 51′ 30 West.

The Crouse site is approximately 11 acres and contained two office buildings 80 feet from U.S. Route 40, with a parking area immediately behind them. A privately owned rubble landfill extended approximately 2,000 feet towards the north from behind the buildings. Marsh lands and ponds occupy the area north of the buildings and east of the landfill. The general area is residential, commercial and light industrial. The Morton Thiokol property surrounded the site and nearby residences and businesses.

Site History

The Crouse site was acquired as two separate parcels. The Crouse family purchased the southern parcel in 1972 from John and Ruth Prial. The buildings along U.S. Route 40 were used for several decades as a maintenance shop for excavation vehicles and for repair and maintenance of heating/ventilation/air conditioning units. In October 1981, R. and H. Crouse purchased the northern parcel from Gilpin Manor Development Corporation. It is not known how Gilpin Manor used the property.

Environmental Investigations

The rubble dump at the Crouse site was discovered in early to mid 1986 during an investigation of residential wells related to groundwater contamination originating on the adjacent Morton Thiokol, Inc. site. [An aerial photograph taken in February1970 showed the dump area to be wooded land, so dumping began some time after 1970.] Site inspections and an aerial survey by Maryland Department of Health and Mental Hygiene (DHMH) in 1986 found numerous regulated wastes in the Crouse landfill. DHMH issued a Site Complaint (SC-0-86-097) to cease and desist all landfilling other than tree stumps, brush, concrete, and clean fill dirt since the site was unpermitted. The Maryland Department of the Environment (MDE) made three additional site inspections between July and September 1987. In November 1987, Crouse Brothers submitted the information requested by DHMH. By December 1987, the unacceptable materials found in the landfill were removed.

The investigation of groundwater contamination at Morton Thiokol, Inc. in 1988 identified a trichloroethene (TCE) plume along U.S. Route 40. The domestic wells downgradient of the Crouse landfill and monitoring wells at the toe of the landfill, installed in 1989 by MDE's

Hazardous and Solid Waste Management Administration (HSWMA), were found to have the highest concentrations of TCE.

HSWMA completed a *Preliminary Assessment* (PA) of the Crouse site in March 1989 and a *Screening Site Inspection* report in September 1990. During conduct of the Site Inspection, HSWMA sampled six monitoring wells and three residential wells for organic and inorganic pollutants. The sampling results demonstrated that groundwater in the vicinity of the Crouse landfill was contaminated with compounds in concentrations that exceeded the established or recommended Maximum Contaminant Level. The most notable contaminant was TCE. The four wells installed by HSWMA demonstrated that the lateral extent of the contaminant plume was larger than previously believed, but a sole source responsible for the contamination could not be established.

In May 1988, MDE notified Morton Thiokol, Inc., Crouse Brothers Excavation, and the U.S. Navy of its intent to design and install a water line to extend community water to approximately 20 residences with contaminated water-supply wells. In February 1990, Morton Thiokol, Inc. and Crouse Brothers signed a Consent Order agreeing to install the water line. Installation began in March 1990 and was completed in August 1990. Except for several wells retained by MDE for groundwater-monitoring purposes, all residential wells were abandoned once the houses were hooked up to the water line.

Current Status

This site is on the State Master List that identifies potential hazardous waste sites in Maryland. The Master List includes sites currently identified by the U.S. Environmental Protection Agency's (EPA) Comprehensive Environmental Response, Compensation and Liability Information System. EPA has given the site a designation of No Further Remedial Action Planned (NFRAP). The designation of NFRAP by EPA does not mean that MDE has reached the same conclusion concerning further investigation at the site. The information contained in the fact sheet presents a summary of past investigations and site conditions currently known to MDE.

DWYER PROPERTY

Site Location

The Dwyer Property site is located north of the corner of Maryland Routes 549 and 275, in Elkton, Maryland. The approximate 72.86-acre property is located on the northwest side of Elkton, just within the city limits.

Site History

According to Department records, the property was agricultural prior to 1933. In 1933, the property was purchased by Triumph Fusee and Fireworks Company and used to produce "fusees," a type of signal flare, and fireworks. In 1938, the company changed its name to Triumph Explosives, Inc. and production was geared to the manufacture of various munitions and trinitrotoluene-based explosives.

To satisfy growing demand for munitions during the early years of World War II, Triumph Explosives, Inc. changed the company name to Triumph Industries and expanded their operation to include the land located west of Blue Ball Road. Triumph Industries used the original property (the Dwyer Property site) to produce Army munitions, and the facilities west of Blue Ball Road to produce Naval munitions.

In 1942, the Department of the Navy assumed control of operations at Triumph Industries for six months. The Navy took over operations by executive order resulting from internal management problems in the company. Triumph Industries continued munitions production until the end of World War II.

In 1946, the Bowers Battery & Spark Plug Company purchased the site. This company used the land to manufacture carbon batteries. In 1948, the property was sold to Aerial Products, Inc., a fireworks and munitions manufacturer. Mr. Martin Dwyer was President of Aerial Products, Inc. throughout the life of the company, which ceased operations in 1958.

Mr. Dwyer purchased the property in 1958 and possibly used the property for the manufacture of incendiary flares until 1972. Maryland Department of the Environment (MDE) records also indicate that Mr. Dwyer may have utilized the property as grazing land for a nearby dairy farm. Mr. Dwyer transferred the property to his nephew, Mr. Andrew Dwyer, the current owner, in 1986.

Since then, the property has become overgrown with vegetation. Unpermitted dumping of household waste has occurred in various portions of the property.

Environmental Investigations

In March 1989, MDE completed a Preliminary Site Assessment of the property. The property came to the attention of MDE as a result of a real estate transaction. As part of the Preliminary Site Assessment, three groundwater monitoring wells were installed on the property. Results of the laboratory analysis of the collected groundwater samples indicated high concentrations of volatile organic contamination in the parts per million range.

In December 1989, after completing the Preliminary Site Assessment of the property, MDE completed a Screening Site Investigation (SSI). The SSI reiterated the results of the Preliminary Assessment.

In September 1994, MDE completed an Expanded Site Inspection (ESI) of the Dwyer Property. This investigation included sampling of surface water, sediment, soil, and groundwater. Analysis of samples indicated the presence of chlorinated solvents and inorganic contaminants in the groundwater beneath the property and various chlorinated solvents in the surface water located in Dogwood Run. However, no contaminants were detected in any of the neighboring residential wells at that time.

In June 1999, MDE completed a Site Survey report to reassess the status of the site previously designated No Further Remedial Action Planned by the U.S. Environmental Protection Agency (EPA). MDE recommended the site be considered for further investigation by EPA under a future Cooperative Agreement.

Current Status

Under the 2000 Cooperative Agreement with the EPA, the MDE conducted an ESI of the Dwyer property in April 2000. The investigation included the collection of source samples of on-site soil and surface waters to verify types and concentrations of hazardous wastes associated with the site and the collection of groundwater samples to test migration hypotheses presented during previous environmental assessments. The ESI report is being drafted and will undergo a toxicological review.

ELKTON FARM "FIREHOLE"

Site Location

The Elkton Farm Firehole site is located two miles northwest of Elkton, Maryland near the intersection of Routes 40 and 279 (Figure 1). The Firehole property occupies approximately 32-acres of the 400-acre Elkton Farm and is located just south of Zeitler Road between Little Elk Creek and Laurel Run. The most recent use of the site has been as a working farm. During the decade before and during World War II, the parcel had been the site of activity related to the manufacture of fireworks and munitions.

The Firehole parcel is located on the USGS Bayview/Newark West quadrangles at approximately 39°38' north latitude and 75°53' west longitude and has a Maryland grid coordinate of 655,000 N and 1,117,500 E. The roughly triangular 32-acre site is bounded on the west by Laurel Run, to the north by Zeitler Road, and to the East by Little Elk Creek (Figure 3). A gravel access road bisects the western quadrant of the site. The Firehole is in this western quadrant west of the gravel road. Land use surrounding the site is primarily agricultural/residential, with an area of medium to heavy industry property to the southeast across Little Elk Creek.

Site History

Throughout most of its history, Elkton Farm site has been used as a livestock farm with much of the surrounding fields under cultivation. During the early 1940s, Triumph Explosives Inc. acquired ownership of the Elkton Farm. During the period between the end of World War II and the 1970s, hazardous material was stored and/or disposed of on the farm. Four hazardous waste disposal areas have been identified:

UNIT ONE

Unit One comprises two areas of the farm that were used by a property owner for the storage of hazardous waste, including drums of ash produced from the Thiokol area (Unit 3), ordnance debris from the TEI operation and drums of waste from Galaxy Chemical. In the early 1980s, the owner of the farm attempted to dispose of 53 drums of hazardous waste from Galaxy Chemical, a nearby solvent recycler, at Norris Farm Landfill in Baltimore County, Maryland. Norris Farm Landfill refused to accept the waste and Galaxy refused to take the waste back. Consequently, the owner of Elkton Farm stored the drums in the two farm buildings until he reported them to MDE almost ten years later. A Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) removal action was completed at Unit One in 1992, which resulted in the removal of drums containing flammable organic compounds, base neutral compounds, halogenated organic compounds, drums of solids, and 10 tons of contaminated soil.

UNIT TWO

Unit Two is the World War II era waste ordnance combustion pit known as the "Firehole," which was used by TEI during the 1940s. The Firehole was defined as the area for the disposal of waste explosives materials generated by the operations at TEI. TEI reportedly collected waste material from the manufacture of explosive ordinance and placed it in drums. This accumulated waste was kept wetted with alcohol or ether to prevent spontaneous combustion, and then carried to a shallow pit off Zeitler Road, spread thinly, and allowed to burn. Plant personnel monitored the burn until the waste explosive was consumed. Photographs in the TEI newsletter from the 1940s show the operation of the Firehole burn pit. Ordinance-related debris was observed on the ground surface during the sampling event.

UNIT THREE
Unit 3 is a 1-acre plot of land leased by the Thiokol Corporation for the operation of a rocket motor cleaning and recovery area in the late 1950s and early 1960. (Unit Three overlays a component of Unit Two.) The abandoned structures for this test area are located on the west side of the property. MDE currently has little information regarding the operation of this "rocket test area."

UNIT FOUR
Unit Four is an area on the farm reportedly used during this same era to dispose of waste organic solvents.

TEI purchased the Elkton Farm property in the early 1940s. The current owners, the Herron Family/MARVA Ltd. Partnership, acquired the property in 1948. In the late 1950s and early 1960s, the Thiokol Corporation leased a one-acre plot of the property. The farm property is currently leased to a commercial farming operation that rotates seasonal crops through the fields.

Current Status
This site is on the State Master List that identifies potential hazardous waste sites in Maryland. The Master List includes sites currently identified by the U.S. Environmental Protection Agency's (EPA) Comprehensive Environmental Response, Compensation and Liability Information System. The information contained in the fact sheet presents a summary of past investigations and site conditions currently known to MDE.

New Jersey Fireworks Site

Site Location
The New Jersey Fireworks site is located approximately 2.4 miles west of Elkton and 2.5 miles east of the town of North East at 1726 Old Philadelphia Road in Cecil County, Maryland. The site consists of 2 parcels that comprise approximately 46.5 acres and is situated in a rural setting just north of the Elk Neck State Forest. Old Philadelphia Road (Route 7) forms the northern border of the site. Forest View Village Trailer Park borders the site to the east, Mill Creek and Amtrak railroad tracks form the western and southern borders of the site. The home of the Bello family is situated topographically upgradient and is located on a parcel at 1720 Old Philadelphia Road that pinches into the site near the midpoint of the property.

Included as part of the New Jersey Fireworks property is the Route 7 Dump Site (MD-075) located to the west of the property. The Route 7 Dump Site consists of an approximately 2-acre, unpermitted disposal area.

Site History
Past activities at the New Jersey Fireworks site include the following: In the early 1900s, the extreme western portion of the site was utilized as a clay quarry which supplied a brick manufacturer. During the World War II period, by-products of munitions production, as well as scrap rubber from the Bayshore Rubber Plant, were disposed of in the former 2-acre clay quarry. In 1956, the New Jersey Fireworks Company purchased the property to manufacture "Class C" fireworks. Manufacturing occurred on the eastern portions of the property, while waste from the production of fireworks took place in a pond formerly used as a clay quarry located at the western portion of the property. In 1983, the Maryland State Highway Administration also used the on-site pond to dispose of fill dirt from road construction.

Environmental Investigations

According to Maryland Department of the Environment (MDE) file records, the New Jersey Fireworks site was found to be in violation of illegal dumping in 1976. In November 1980, an Administrative Order was issued to the company by the Maryland Department of Health and Mental Hygiene (DHMH). The Order required that New Jersey Fireworks close out the disposal area while protecting human health and the environment.

In 1980, the Ecology and Environment Company and the DHMH conducted an inspection of the on-site pond that was a former clay quarry known as the Route 7 Dump Site (MD-075). Reportedly, samples collected from an on-site pond revealed some contamination. No other details were given other than the contamination had not migrated off site.

In 1983, the NUS Corporation conducted a Site Inspection that focused on the Route 7 Dump Site, during which samples were collected from an adjacent stream. Elevated concentrations of barium were detected at 19,300 µg/l in an on-site pond sample. Trace amounts of cadmium, cobalt and chromium were also detected.

In 1988, the New Jersey Fireworks Company was identified by the MDE as a hazardous waste generator and was subject to regulations set forth by the Hazardous Waste Enforcement Division of the MDE. The area near the sparkler manufacturing building was of primary concern, as concentrations of barium in the soil reached 63,000 mg/kg. Later that year, a Consent Order was issued by MDE to ensure the proper handling and disposal of hazardous and solid waste at the facility. Inspections by Hazardous Waste Enforcement Division personnel continue to occur at the New Jersey Fireworks site on a regular basis.

In 1992, the MDE Site Assessment/Pre-Remedial Division conducted a Level I Site Inspection Prioritization on the Route 7 Dump Site. Using existing analytical data, the site was evaluated and recommended for a "No Further Remedial Action Planned" (NFRAP) status under CERCLA. No additional samples were collected at this time.

In 1999, the New Jersey Fireworks site was inspected by the Federal Bureau of Alcohol, Tobacco and Firearms (ATF) and the MDE. The inspection revealed that large amounts of fireworks were being stored in an unsafe manner. According to representatives of the ATF, the on-site manufacturing of fireworks ceased approximately seven to eight years ago. The types of fireworks previously manufactured include sparklers and black powder explosives. The property is now used to repackage imported fireworks.

The 1999 ATF/MDE inspection also revealed that several buildings on site contained old fireworks. Many of these buildings were in poor condition. Several pit-like depressions were located in a wooded area and were previously used for the burning and disposal of old fireworks. Rusted thirty-gallon and fifty-gallon drums litter the site. Some of the drums still possess legible labels indicating that they contained potassium perchlorate. Lastly, a waste disposal area is located on the south side of the New Jersey Fireworks property. This waste disposal area consisted of wooden pallets, drums, aerosol cans, oil containers, auto parts, cinders and other scattered debris, some of which looked like asbestos material.

Current Status

The MDE conducted a Site Investigation of the New Jersey Fireworks site in April 2000. The Site Investigation report is being drafted and will undergo a toxicological evaluation.

ROUTE 7 DUMP SITE

Site Location

The Route 7 Dump site is located along Maryland Route 7 in Cecil County, Maryland, approximately 2.4 miles west of Elkton and 2.5 miles east of the town of North East. The site size is about 2 acres. The site is located at the confluence of Mill Creek and one of its unnamed tributaries to the south and east, respectively.

The site is situated in the Atlantic Coastal Plain Physiographic Province, just east of the Fall Line. The area surrounding the site consists of rural wooded lots. A number of quarrying operations and three Class C fireworks companies were once located within a 3-mile radius of the site.

Site History

In the early 1900s, the site was utilized as a clay quarry that supplied clay to a brick manufacturer. During the World War II period, by-products of munitions production, as well as scrap rubber from the Bayshore Rubber Plant, were disposed of on site.

In 1956, the New Jersey Fireworks Company purchased the property for use as a disposal area for class C fireworks. The dump site was not permitted. The disposal area consisted of a burn pad and a water-filled pit that was used to dispose of the ash material. By 1980, wastes were burned at the site, and the ash was transported to the county landfill.

Between 1983 and 1986, the State Highway Administration used the on-site pond to dispose of fill dirt from road construction. Most of the fill dirt consisted of clays.

Environmental Investigations

The State of Maryland investigated the site in 1980, at which time sample results indicated contamination of an on-site ponded area, but no evidence of off-site contamination.

In December 1983, the U.S. Environmental Protection Agency (EPA) conducted a Site Inspection that included collecting samples from on-site surface waters and an adjacent stream. Lead detected in upstream and downstream aqueous samples was determined to be unrelated to the site. Only butyl benzyl phthalate (15 micrograms per liter, ug/l) was detected in aqueous samples, and it was determined to pose no evident hazard. A high concentration of barium (19,300 ug/l) was detected in the on-site pond aqueous sample, but no barium was detected off site.

In June 1992, the Maryland Department of the Environment (MDE) transmitted a Level I Hazardous Ranking System score to EPA, and reported that New Jersey Fireworks Company still owned the site, and that the State Highway Administration disposed of fill dirt from road construction in the on-site pond from 1983 to 1986. MDE recommended considering the site for No Further Remedial Action Planned (NFRAP) under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA).

In September 1992, MDE transmitted to EPA a revised *Level I Site Investigation Prioritization* (SIP) for the site and recommended NFRAP under CERCLA at this time.

Current Status

This site is on the State Master List that identifies potential hazardous waste sites in Maryland. The Master List includes sites currently identified by the EPA's Comprehensive Environmental Response, Compensation and Liability Information System. EPA has given the site a designation of NFRAP. The designation of NFRAP by EPA does not mean that MDE

has reached the same conclusion concerning further investigation at the site. The information contained in the fact sheet presents a summary of past investigations and site conditions currently known to MDE.

W.L. GORE (LEFT BANK)

Site Location

Property consists of approximately seven acres located in the Triumph Industrial Park, near the junction of Routes 279 and 545 in Elkton, Maryland. Situated north of the confluence of Dogwood Run and Little Elk Creek, the property includes a warehouse, a paved parking area, lawn areas and a wooded area. Directly adjacent to Little Elk Creek, the majority of the wooded area, which is topographically lower than the rest of the site (about 10 to 20 feet), lies within the Little Elk Creek floodplain. The former industrial dumpsite, covering approximately two acres, is located within the wooded area on the north bank of Little Elk Creek (also referred to as the "left bank"). Other commercial and industrial properties surround the site.

Site History

The Triumph Industrial Park property has been used for industrial operations since the 1940s. Through 1947, the property was used, owned and operated by Triumph Explosives for the manufacture of military ordnance. After World War II, the old munitions plant was demolished and the materials from the plant were deposited as fill in the area along the Little Elk Creek. In 1947, the property was purchased by The Elkton Company (later known as Trinco Industrial Park) who used property for light industry and warehousing. Historical records indicated that in 1968 and 1969, waste from Galaxy Chemical was disposed of at the property. In addition to the chemical waste, other waste and construction debris were disposed in the area along Little Elk Creek. In 1972, the property was sold to General Tire and Rubber Company, and in 1983, W.L. Gore purchased the property.

Environmental Investigations

The former dumpsite was first identified in 1983 by a Department of Health and Mental Hygiene inspector who was investigating another site within the Triumph Industrial Park. Samples collected from a small spring during the initial visit revealed elevated levels of potentially carcinogenic Volatile Organic Compounds (VOCs). As a result, the site was listed on the U.S. Environmental Protection Agency' s (EPA) Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS). However, since other adjacent sites were under investigation at the time and there was no residential use of groundwater in the area, the site was not further investigated until the late 1980s.

In 1988, W.L. Gore conducted a preliminary assessment of the property. Trenches dug near the waste disposal area revealed dark stained soils and tar materials. Laboratory analysis indicated elevated levels of VOCs. During 1989 and 1990, additional investigations were conducted by the Maryland Department of the Environment (MDE). It was concluded that the disposal area is a source of groundwater contamination in the area and that contaminants may bio-accumulate in fish and wildlife that inhabit the creeks and rivers in the vicinity and through direct exposure. In October 1991, during removal of scrap tires from the property, workers uncovered seven 55-gallon drums. MDE personnel conducted a limited removal action of the drums located on the surface. Beneath the drums, MDE discovered solid and liquid substances emitting solvent odors in the soils. Laboratory analysis of the soil indicated high concentrations of volatile hydrocarbons. A work plan was developed and a Removal Action (RA) of the source material was completed at the property in 1997.

Current Status

This site is on the State Master List that identifies potential hazardous waste sites in Maryland. The Master List includes sites currently identified by EPA's Comprehensive Environmental Response Compensation and Liability Information System. EPA has given the site a designation of No Further Remedial Action Planned (NFRAP). The designation of NFRAP by EPA does not mean that MDE has reached the same conclusion concerning future investigation at the site. The information contained in the fact sheet presents a summary of past investigations and site conditions currently known to MDE.